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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,372	09/24/2003	Osamu Aizawa	031193	4795

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WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER	
DINH, TUAN T	

ART UNIT	PAPER NUMBER
2841	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/668,372	AIZAWA, OSAMU	
	Examiner	Art Unit	
	Tuan T. Dinh	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, and 5-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Kudoh et al. (U.S. Patent 6,373,714).

As to claims 1 and 5, Kudoh et al. discloses a circuit substrate as shown in figures 1-3 comprising:

a first substrate (a PCB-1, column 3, line 50) having first and second surfaces (top and bottom surfaces) and circuit elements are loaded (2, column 3, line 63) on the first surface (top surface);

a second substrate (a motherboard-10, column 4, line 16) on which the first substrate (1) is loaded; and

noise reduction elements (electronic parts comprising a capacitor, resistor, or inductor-3, column 3, lines 64-66) each sandwiched between an area of the second surface (the bottom surface of the first substrate (1) over against the first surface of the first substrate (1) and a surface (top surface of the motherboard 10) of the second

substrate (10) facing the second surface (the bottom surface) of the first substrate (1), the noise reduction elements (3) each being connected between a power source terminal of the second surface of the first substrate (1) (by a terminal 3b connected to a power source terminal of a voltage controlled oscillator, which is the PCB 1) and a power source terminal of the surface of the second substrate (10) (by a terminal 3b connected to a power source pad 11 of the motherboard 10), see column 4, lines 18-25.

As to claims 2, 6, Kudoh et al. discloses the noise reduction element (3) is a chip condenser (a decoupling capacitor).

As to claims 9-10, Kudoh et al. discloses each of the noise reduction element (3) is connected between a ground terminal of the first substrate to a ground terminal of the second substrate, see column 4, lines 18-25.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3-4, and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudoh et al. ('714) in view of McKee et al. (U.S. Patent 6,418,029).

Kudoh et al. does not disclose a signal terminal of the second surface of the first substrate connected with a signal terminal of the surface of the second substrate in accordance with a ball grid array system.

McKee et al. teaches an interconnect system having vertically mounted passive components on an underside of a substrate as shown in figures 1-3 comprising solder balls (40) electrical signal connecting between a substrate (10) and a PCB, see column 3, lines 16-67.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of McKee et al employ in the circuit substrate of Kudoh et al. in order to provide electrical signal connections for communications between a substrate to a PCB.

Response to Arguments

5. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues:

Kudoh et al. does not disclose a noise reduction element connected between a power terminal of the first substrate to a power terminal of the second substrate.

Examiner disagrees because in column 4, lines 18-28 of Kudoh reference that disclose the electronic part (3) connected between a power source of a voltage control oscillator (a PCB-1) to a power source supply pad of the motherboard (10). Thus Kudoh meets all of the limitation of the claimed invention. Therefore, the rejection is proper.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan Dinh
March 12, 2006.

KIMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800